

Serial No.: 08/471,474

wherein said antibodies bind to Gag, Pol, or Env polypeptides of the virus designated HIV-1_{MAL} deposited at the COLLECTION NATIONALE DES CULTURES DE MICRO-ORGANISMES (CNCM) under No. I-641, and

wherein the genetic structure of said HIV-1 variant is 5-LTR-gag-pol-vif-vpr-tat-rev-vpu-env-nef-LTR-3' [the same as the genetic structure of HIV-1].

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REMARKS

Reconsideration of this application is respectfully requested.

Applicants have amended claim 23. Support for the amendments is found throughout the specification, for example in Fig. 1A, Fig. 2, Fig. 4, pages 8-9, bridging paragraph, and pages 21-22, bridging paragraph. Accordingly, no new matter enters by amendment.

Claims 23-25 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. The Examiner contends that the reference in claim 23 to genetic differences is ambiguous. The Examiner also contends that the reference in claim 23 to an HIV-1 variant containing the same genetic structure as compared to HIV-1 is confusing.

Applicants have amended claim 23 to recite that the variant virus differs from HIV-1_{III B}, HIV-1_{BRU}, and HIV-1_{ARV-2} at the amino acid sequence level in the entire Gag, Pol, and Env proteins. Applicants have also amended claim 23 to recite that the genetic structure of the HIV-1

Serial No.: 08/471,474

variant is 5-LTR-gag-pol-vif-vpr-tat-rev-vpu-env-nef-LTR-3'. Accordingly, applicants respectfully request withdrawal of the rejection.

Claims 23-25 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention at the time the application was filed. The Examiner contends that the specification only describes isolation of a single novel HIV-1 isolate, and fails to provide any evidence suggesting that additional HIV-1 isolates were isolated and purified. The Examiner alleges that the skilled artisan would conclude that applicants were not in possession of any variants other than HIV-1_{MAL}. Applicants traverse the rejection.

Contrary to the Examiner's contention, applicants describe the isolation of characterization of HIV-1 isolates HIV-1_{MAL} and HIV-1_{ELI}. (Specification at 7, lines 10-24; Figs. 3A-3F). In Figs. 3A-3F, applicants describe the amino acid sequences of the Gag, Pol, Vif, Vpr, Env, and Nef proteins of HIV-1_{MAL} and HIV-1_{ELI} in comparison to HIV-1_{BRU} and HIV-1_{ARV-2}. In Fig. 4A, applicants describe that both HIV-1_{MAL} and HIV-1_{ELI} differ at the amino acid sequence level from HIV-1_{IIIB}, HIV-1_{BRU}, and HIV-1_{ARV-2} greater than 3.4 % in the entire Gag protein, 3.1% in the entire Pol protein, and 13.0% in the entire Env protein. Figure 4A illustrates that HIV-1_{ELI} differs substantially from HIV-1_{MAL}. Since applicants were clearly in possession of more than a single novel HIV-1 isolate, applicants submit that the basis for the Examiner's rejection is in error, and respectfully request withdrawal of the rejection.

Serial No.: 08/471,474

Furthermore, applicants' description clearly conveys that applicants had possession of the claimed genus of HIV-1 variants. In Figs. 3A, 3C, and 3E, the specific amino acid differences between Gag, Pol, and Env proteins of each of the isolates HIV-1_{MAL}, HIV-1_{ELI}, HIV-1_{BRU}, and HIV-1_{ARV-2} are shown. Using this information, applicants described variable and conserved regions of HIV-1 Gag, Pol, and Env. (Specification at 10-17). Applicants' comparison of viruses indicated that these viruses are evolutionarily related as diverging from a common origin. (Specification at 17, lines 17-33). Consequently, applicants' description is not simply of HIV-1_{MAL} and HIV-1_{ELI}, but rather of a group of HIV-1 viruses, which is of greater evolutionary divergence than the group consisting of HIV-1_{IIIb}, HIV-1_{BRU}, and HIV-1_{ARV-2}. This group of viruses would contain not only HIV-1_{MAL} and HIV-1_{ELI}, but also variants of these viruses. (See Specification at 3, lines 4-5). The skilled artisan would recognize that additional members of this group could contain amino acids sequences of HIV-1_{MAL}, HIV-1_{ELI}, or combinations of the two sequences. Therefore, applicants' description would reasonably convey to the skilled artisan that applicants had possession of the claimed invention. Accordingly, applicants respectfully request withdrawal of the rejection.

Claims 23-25 were rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Meyers et al., 1990. The Examiner contends that, since applicants have allegedly not provided an adequate written description of the invention, priority has not been extended under 35 U.S.C. §§ 119 or 120. The Examiner

Serial No.: 08/471,474

contends that, therefore, Meyers et al., 1990, is prior art and that isolate Z2Z6 appears to meet all the claim limitations. Applicants traverse the rejection.

Applicants claim priority to U.S. Application Ser. No. 07/038,330 filed April 13, 1987, and to French application 86401380.0 filed June 23, 1986. As discussed above, applicants specification fulfills the written description requirement of 35 U.S.C. § 112, first paragraph. Accordingly, Meyers et al., 1990, cannot be considered "prior art", and applicants respectfully request withdrawal of the rejection.

Applicants respectfully submit that this application is in condition for allowance and request the issuance of a Notice of Allowance. If the Examiner should disagree, he is invited to contact the undersigned to discuss any remaining issues.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully Submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.


Kenneth J. Meyers
Registration No. 25,146

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